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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ALEXANDER, LYLE	

ART UNIT	PAPER NUMBER
1797	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/027,516	Applicant(s) BOHM ET AL.	
	Examiner Lyle A. Alexander	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22, 24-41, 48 and 49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22, 24-41 and 48-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-22, 24-41 and 48-49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original specification does not teach the claimed diameter of the port being less than the diameter of the microchannel and does not teach "none of the liquid enters the fluid interface port".

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-22 and 24-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims (1-28,58-150) and (1-45)

of copending Application No. 10/028,852 and 10/057,354 respectively. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to a microfluidic device having a virtual wall.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-22 and 24-41 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 6,877,528. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to a microfluidic device having a virtual wall. This patent is silent to the claimed dimension of the interface port.

The court decided In re Rose (105 USPQ 237) “ ... the size of the article under consideration which is not ordinarily a matter of invention .” Additionally, it is desirable to make microfluidic devices as small a possible to minimize the volumes of reagents and samples. This minimization saves in the cost of the reagents and conserves the samples for further testing.

It would have been within the skill of the art to modify USP 6,877,528 and have channels and ports in the device meeting the claimed size of the channels and as the dimensions chosen for the channels would not ordinarily be a matter of invention.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-22, 24-41 and 48-49 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Chow (USP 6,494,230).

See the appropriate paragraph of the 11/9/06 rejections.

Claims 1-22, 24-41 and 48-49 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Handique et al. (USP 6,130,098).

See the appropriate paragraph of the 11/9/06 rejections.

Claims 1-22, 24-41 and 48-49 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fuchs (USP 5,757,482).

See the appropriate paragraph of the 11/9/06 rejections.

Response to Arguments

Applicant's arguments filed 10/31/07 have been fully considered but they are not persuasive.

Applicant traverses the non-statutory obviousness-type double patenting rejection over USP 6,877,528 stating the patent teaches a valve that interfaces with a side channel and reservoir which cannot be read on the presently claimed port formed within and co-planar with a side wall of a channel. These remarks are not commensurate in scope with the pending claims that are directed to a port within the sidewall of a microchannel. Applicants also state the '528 patent contains addition elements, such as a gas filled reservoir, a buffer filled reservoir, etc. The pending claims are broad enough to be properly read on the patented claims. Applicant also states the patent does not "necessarily" create the virtual wall of the instant application. Again these remarks are not commensurate in scope with the pending claims that do not exclude additional elements (e.g. the pending claim language of "comprising" does not exclude the presence of additional elements).

Applicant's state page 5 lines 4-6 of the original specification provide support for the limitation that the "... microchannel is larger than the diameter of the fluid interface port..." The Office has consulted page 5 of the specification and did not find the quoted phrase to support the instant claim language.

Applicants state the cited prior art fails to teach the limitations teach "none of the liquid enters the fluid interface port". In light of the above 35 USC 112 first paragraph issues, there does not appear to be support in the original disclosure for these limitations. Rather, the original specification (e.g. see page 16 lines 10-20) teaches adding fluid through the port(17) which appears to contradict the new limitations.

Applicants argue the cited prior art fails to teach "... a device ... with a constant depth ...". These remarks are not commensurate in scope with the pending claims where "constant depth" has been canceled because it is new matter.

Applicants state the cited prior art fails to teach the "depth" of the port is "substantially smaller than the diameter of the fluid interface port". The Office maintains the language "smaller than" is sufficiently broad to have been properly read on the cited prior art.

Applicant's remarks concerning Chow were convincing and the rejections have been vacated.

Applicants state Handique teaches entry port "A" that has a cross section greater than the diameter of the channel. The Office does not understand the relevance of the size of port "A" which is not at issue for the rejections of record. Rather, the Office has read port(70) on the claimed interface port. Applicant's state port(70) of Handique cannot be read on the claimed interface port because it is incapable or performing as the claimed port performs. In the absence

of a showing otherwise, the Office maintains, one having ordinary skill in the art would have expected the taught port(70), which has an indistinguishable diameter, would have been expected to perform similarly.

Applicants state the port(24) taught by Fuchs must be at least 400 microns thick and cannot be less than the channel which is 10-1000 microns. The Office notes Fuchs teach in column 4 lines 65-68 the cover is at least 50 microns and in column 5 lines 1-3 most preferably 400-2000 microns thick. This taught range of the cover and subsequent diameter of port(24) is within the range to be smaller than the channel diameter and has been properly read on the instant claims.

This is a continuation of applicant's earlier Application No. 10/027,516. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however,

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event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lyle A Alexander whose telephone number is 571-272-1254. The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lyle A Alexander
Primary Examiner
Art Unit 1743

